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New York Power Authority
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John Kahabka
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March 26, 2014

Judith A. Enck
Regional Administrator
US EPA Region 2
290 Broadway
New York, New York 10007-1866

Subject: New York Power Authority
Y49 Submarine Cable
National Response Spill Number: 1070239
NYS DEC Spill Number: 1309694

Dear Ms. Enck:

The New York Power Authority (Authority) reported an oil spill to navigable waters of Long Island Sound from the Authority's Y49 electric transmission cable on January 6, 2014. The spill event occurred on January 6, 2014 and ended on February 27, 2014. At the time of the incident January 6, 2014, the spill notification was based on information obtained from the Y49 leak detection system. In total, it is estimated 6666 gallons of cable insulating oil, also referred to as dielectric fluid, was discharged to the Long Island Sound. In accordance with 40 CFR 112.4, and in compliance with the Y49 Submarine Cable Spill Prevention Control and Countermeasure (SPCC) plan, the Authority is submitting this report to the United States Environmental Protection Agency (USEPA), United States Coast Guard (USCG), and New York State Department Environmental Conservation (NYSDEC). The required details of the report are given below:

(1) Name of the facility:

New York Power Authority Y49 Submarine Cable

(2) Facility Contact:

John Kahabka, Vice President of Environment, Health & Safety (EH&S), New York Power Authority

(3) Location of the facility:

The Y49 Cable is an electric transmission system consisting of four (4) submarine cables (3 phase conductors and 1 spare conductor) buried within the seabed of the Long Island Sound. The cable terminus locations are the North Transition Station at 385 Davenport Ave, New Rochelle, NY 10805 and the South Transition Station at 75 West Shore Road, Port Washington, NY 11050.

The Y49 cable fault/leak point was located on the C Phase Cable at N40° 52' 30.4683", W73° 41' 12.858" in the Long Island Sound.

Please see attached Map (1) Side Scan Sonar Map.

(4) Maximum storage or handling capacity of the facility and normal daily throughput:

The storage total capacity of the four (4) submarine cables is 10,000 gallons of dielectric fluid (2500 gallons per cable). The system is a closed loop and under normal operating conditions the fluid is static within the cable. The cables are hydraulically connected to two pressurizing plants, the North Transition Station at 385 Davenport Ave, New Rochelle, NY 10805 and the South Transition Station at 75 West Shore Road, Port Washington, NY 11050. These plants are operated by Consolidated Edison and Public Service Electric & Gas, respectively. The pressurizing plants each have a capacity of 10,000 gallons of di-electric fluid. The pressurizing plant facilities maintain their own SPCC Plans.

(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements:

In accordance with the Y49 SPCC/Oil Spill Contingency Plan, spill response and containment operations began on January 9, 2014 after a sheen was observed by a USCG helicopter fly-over on January 8, 2014 and the approximate location of the fault/leak was determined. Hazardous weather conditions prevented response resources from arriving on scene until January 10, 2014.

The Authority and its oil spill response contractor, Miller Environmental (Miller), deployed response resources to achieve the objectives of the USCG Incident Action Plan (IAP) which became effective on January 9, 2014. In accordance with the IAP, the Authority and Miller identified Environmentally Sensitive Areas (ESA) deployed hard boom and absorbent boom to protect shorelines and preserves at Prospect Point, East Lake & Sands Point Park and Preserve, Welwyn Preserve, all openings to West Pond and Dosoris Pond and for one private marina. Protective measures were in place beginning on January 12, 2014 until February 28, 2014. Additionally, to support and implement the spill response plan, four vessels were used, Jennifer Miller (landing craft), Megan Miller (support boat), Erin Miller (support boat) and Mark Miller (skimming vessel). Miller Environmental deployed response crews to maintain shoreline protection boom, perform Shoreline Clean-up Assessment Technique (SCAT) walk downs and recover oil from the water for the duration of the spill response efforts.

The Y49 cable flow limiting system reduced the flow on the dielectric fluid during response operations to diminish the potential for additional discharge to the environment while protecting the integrity of the cable.

Miller Environmental, in tandem with boom protection systems, began a pollution recovery operation using skimming boat, skimmer and boom isolation to recover floating oil from the water surface. The

skimming operations were positioned above the leak from the Y49 cable. Oil released from the cable was collected using an oil skimmer surrounded by hard boom on the surface of the water. Skimming operations began on January 10, 2014 and ended February 1, 2014, after the oil leak rate from the cable had been minimized to where it was determined skimming was no longer effective.

On January 10, 2014 Miller Environmental initiated dive operations to locate the leak point on the Y49 cable. The cable needed to be exposed up to thirteen feet below the seabed. On January 25, 2014 the strike location on the cable and source of oil leak was discovered. Miller removed sheathing on the cable and attached a clamp to limit oil leakage from the cable on January 28, 2014. In addition to the clamp Miller employed an oil containment system to collect leaking oil from around the clamped area. The use of the clamp and oil containment system virtually halted the leak of fluid. Miller continued to excavate the cable for repair until February 17, 2014. In total, Miller excavated 500 feet of the Y49 cable from thirteen feet below the seabed from January 17, 2014 to February 12 2014, in preparation for cable cutting, lifting and capping.

On February 17, 2014 Prysmian Group (Prysmian) the cable manufacturer, and Caldwell Marine International (CMI) arrived on-station with the Hughes 180 repair barge to begin the cutting, lifting and capping operation on the Y49 cable. During Prysmian's and Caldwell's activities Miller maintained oil recovery operations with hard and absorbent boom around the repair and skimming vessel from February 17, 2014 to February 28, 2014. On February 22, 2014 the Y49 cable was cut underwater to allow for the cable ends to be lifted aboard the barge for capping. The northwestern section of cable was lifted, capped and pressure tested on February 23, 2014. On February 24, 2014 the northwestern section of the Y49 cable was laid on the sea floor. The southeastern section of the Y49 cable was lifted to the repair barge on February 26, 2014. The southeastern section was capped, pressure tested and returned to the sea floor on February 27, 2014. The fluid leak had been stopped. Permanent electrical repairs to the cable are scheduled for the second quarter of 2014. Repairs will be conducted on-board a specially equipped vessel.

The Authority fulfilled all terms and conditions of the IAP and with USCG concurrence the IAP expired on March 2, 2014.

Please see the following attachments:

Photos: (1) View of clamp on main cable with fiber optic cable (smaller) on top, (2) Prospect Point, East Lake & Sands point Park & Preserve Hard Boom,5" & 8" Absorbent Boom (Looking East), (3) Hard Boom,5" & 8" Absorbent Boom (Looking West), (4) Hard Boom protecting Welwyn Preserve and all Openings to West Pond & Dosoris, (5) Hard Boom & Absorbent Sweep protecting north opening to private marina

Diagrams and Maps: Figure 2 Coordinate Reference Map, Figure 3 Cable Excavation Progress map, Figure 5 Boom Diagram North and Figure 6 Boom Diagram South

(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary:

The cable system for the crossing of the Long Island Sound consists of four single-core self-contained dielectric fluid-filled cables (three phase conductors plus one spare conductor). A 30 mm central duct in each cable provides the space for the low viscosity dielectric fluid. Approximately 2,500 gallons of fluid is contained in each of the four submarine cables. Each cable contains flow restrictors that are located at approximately 250 meter intervals. The flow restrictors serve two purposes, in the event of the cable severance they will reduce the outflow of dielectric fluid, and they prevent the inflow of saltwater which could contaminate the cable insulation.

One self-contained fluid filled (SCFF) pressurization plant is located at each of the transition stations. The plants operate in tandem, maintaining constant pressure by increasing or decreasing fluid volume within the cables as necessary. Each unit is capable of maintaining dielectric fluid pressure in the entire submarine cable system should the others fail.

Each pressurizing plant consists of dual fluid storage reservoirs, three pressurizing pumps, three pressure regulating systems, four flow limiter systems, control equipment and associated interconnecting piping system and valving. The SCFF pressurization plants have a capacity of approximately 10,000 gallons each, but while working, each contains half this amount.

Please see attached Map (1) Side Scan Sonar Map.

(7) The cause of such discharge as described in §112.1(b), including a failure analysis of the system or subsystem in which the failure occurred:

The probable cause of the incident and resulting oil discharge was a 3rd party boat anchor and/or chain strike to the C Phase of the Y49 cable causing a fault and leak.

(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence:

The Y49 submarine cable is buried in the sea bed under Long Island Sound and located on navigation charts. The location and nature of the cable make it impracticable to provide secondary containment for the oil inside of the cable. The Y49 cable is considered *Oil Filled Operational Equipment* as defined 40 CFR 112.2.

Therefore, pursuant to 40 CFR 112.7 (k)(2,) in lieu of secondary containment and to mitigate the consequences of an oil leak, a leak detection system and oil flow limiting system is incorporated into the cable design. Additionally, a strong Oil Spill Contingency Plan, following the provisions 40 CFR Part 109, along with a written commitment of manpower, equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful is contained within the SPCC Plan and will be implemented in the event of an oil release.

(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

- The incident was the result of a 3rd party action. The cable locations are noted on navigational charts.
- In accordance with the Y49 SPCC/Oil Spill Contingency Plan, regulatory agencies (NRC, NYSDEC) were promptly notified as soon a leak was suspected.
- Once a leak was confirmed, the Authority immediately implemented the Y49 Oil Spill Contingency Plan.
- The Authority worked closely and in coordination with the USCG and NYSDEC to respond to the spill. All parties agreed to the objectives of the IAP and signed the IAP.
- The source of the leak, the Y49 cable, has been capped and is no longer leaking dielectric fluid.
- ESA were identified and protected and at no time did dielectric fluid impact the shoreline or impact ESA.
- There was no observable fouling of wildlife or shellfish bed impacts.
- Miller Environmental conducted Shoreline Clean-Up Assessment and Techniques (SCAT) assessments throughout the IAP period and there was no observable sheen on the shoreline at any time.
- Miller Environmental contained and recovered spilled material to the maximum extent practicable.
- All spill absorbents and recovered materials were managed in accordance with all federal, state and local regulations and statutes.
- During the IAP operational period Miller Environmental established and maintained a security perimeter to manage ingress and egress.
- There were no significant safety events noted during the IAP period or during any operations.

Please contact me at 914-681-6308 or at john.kahabka@nypa.gov if you have any questions or require additional information.

Sincerely,

John Kahabka
Vice President Environment, Health & Safety
New York Power Authority

Enclosures

CC: w/enclosures
Peter A. Scully, Regional Director, NYS DEC Region 1
Jeffery T. Eldridge, Commander, USCG

Photo 1: View of clamp on main cable with fiber optic cable (smaller) on top

Photo 2: Prospect Point, East lake & Sands point Park & Preserve
Hard Boom,5" & 8" Absorbent Boom (Looking East)

Photo 3: Hard Boom,5" & 8" Absorbent Boom (Looking West)

Photo 4: Hard Boom protecting Welwyn Preserve, West Pond & Dosoris

Photo 5: Hard Boom & Absorbent Sweep protecting north opening to private marina

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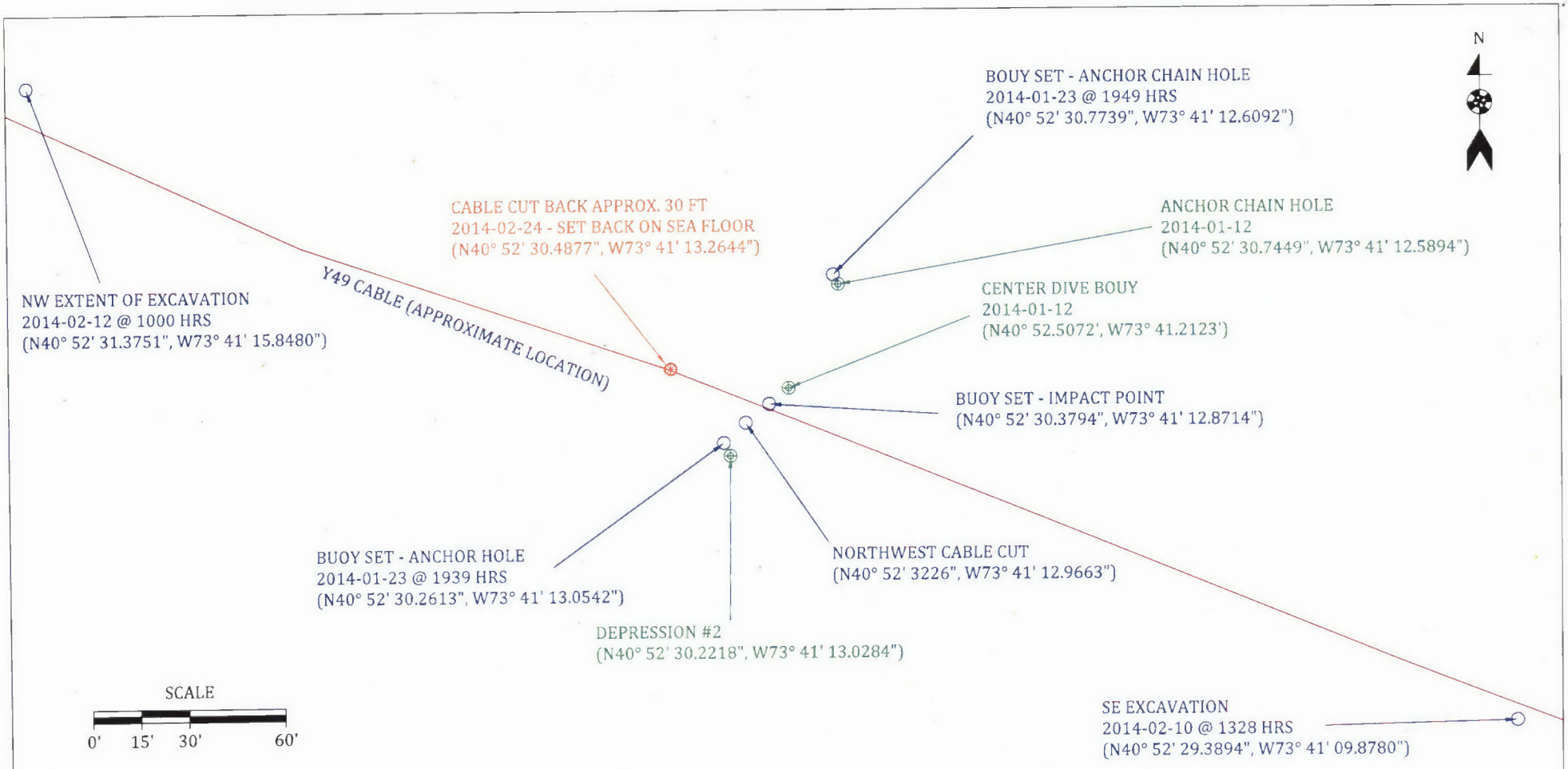
FIGURE 1 SIDE SCAN SONAR MAP	DRAWN BY: RJF DATE: 01/28/14 SCALE: NTS
Y-49 CABLE STRIKE HEMPSTEAD HARBOR, NY	CLIENT: NEW YORK POWER AUTHORITY MEG #: M14-0038



LEGEND	GENERAL NOTES
◯ SURVEY LOCATION PROVIDED BY ALPINE OCEAN SEISMIC SURVEY, INC. ⊕ OSI SURVEY LOCATION	

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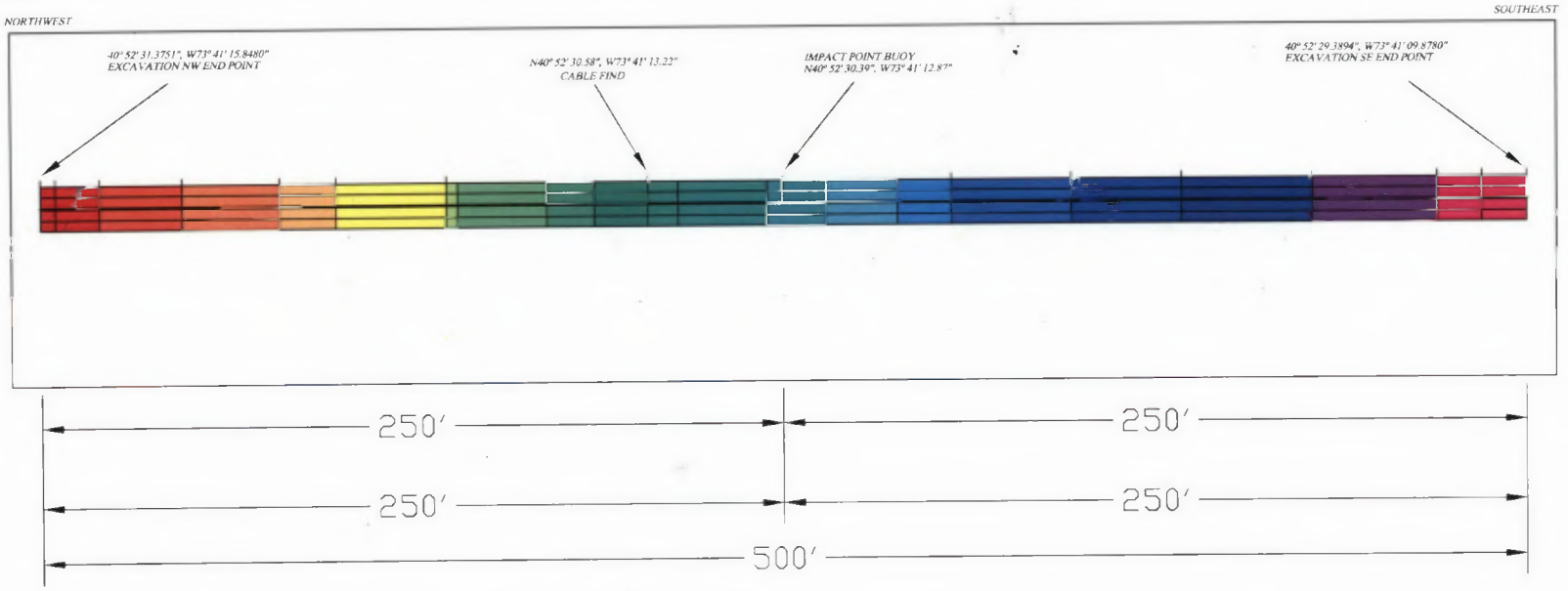
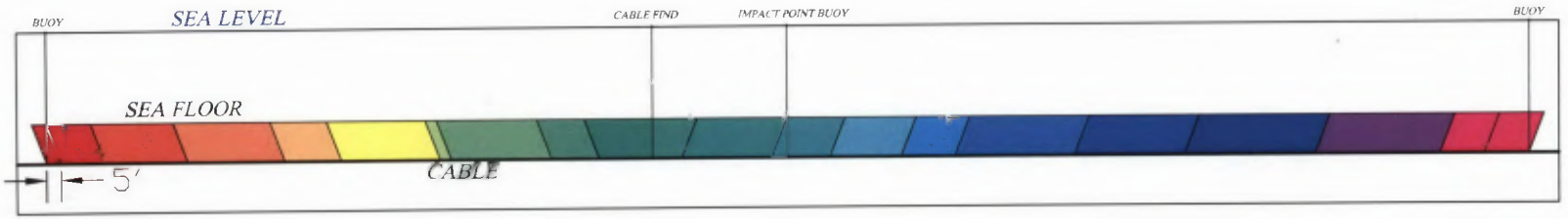
FIGURE 2
COORDINATE REFERENCE MAP

Y-49 CABLE STRIKE
HEMPSTEAD HARBOR, NY

DRAWN BY: RJF
DATE: 02/24/14
SCALE: 1:30
CLIENT: NEW YORK POWER AUTHORITY
MEG #: M14-0038

OVER HEAD VIEW





ELEVATION VIEW

LEGEND - EXCAVATION COMPLETION DATES

01/17/14	01/19/14	01/29/14	02/04/14	02/08/14	02/12/14
01/17/14 (N)	01/19/14 (N)	01/30/14	02/05/14	02/09/14	
01/18/14	01/20/14	01/31/14	02/06/14	02/10/14	
01/19/14	01/20/14 (N)	02/01/14	02/07/14	02/11/14	

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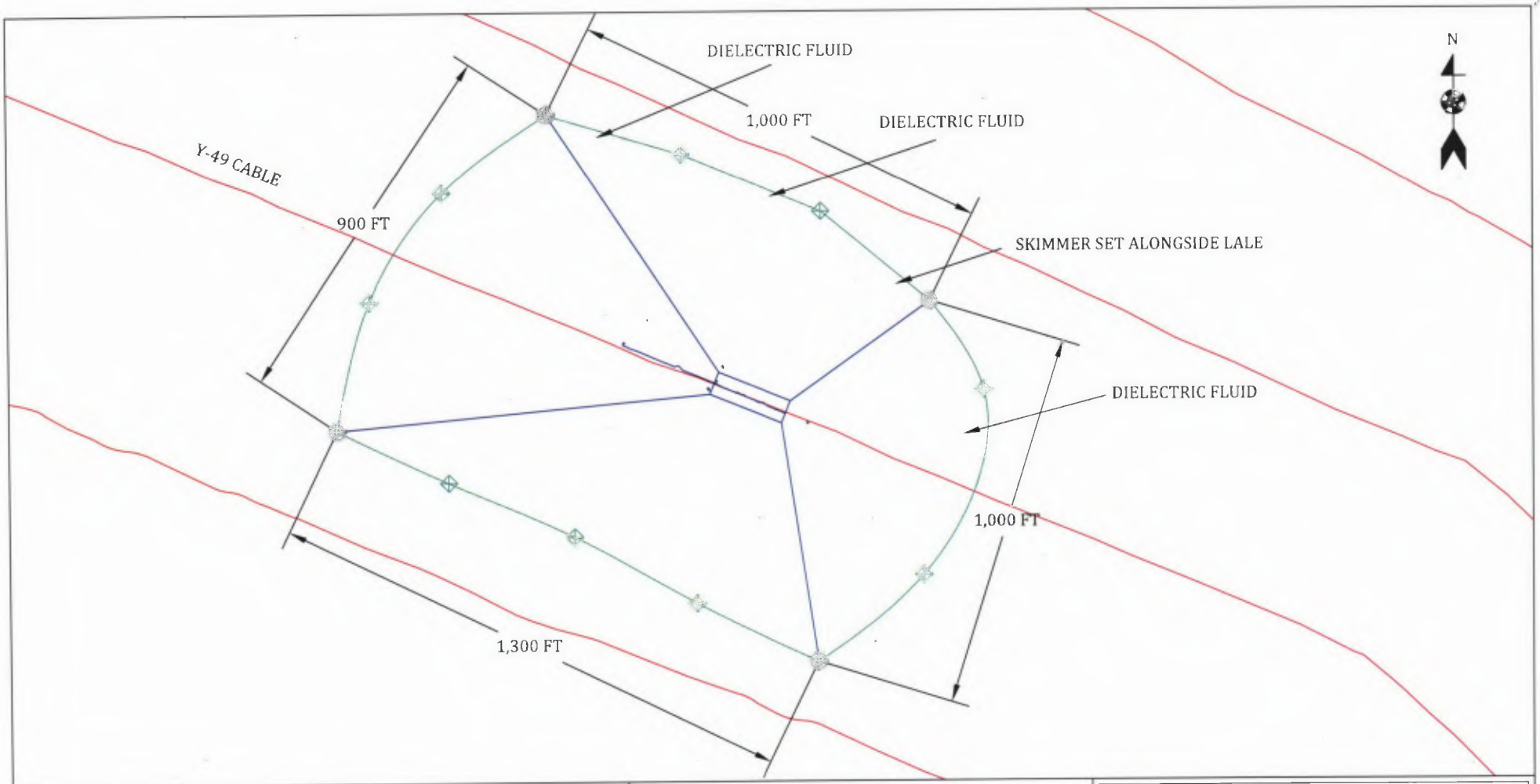
FIGURE 3
CABLE EXCAVATION PROGRESS
Y-49 CABLE STRIKE
HEMPSTEAD HARBOR, NY

DRAWN BY: RJF
DATE: 02/12/14
SCALE: 1:40
CLIENT: NEW YORK POWER AUTHORITY
MEG #: M14-0038



LEGEND	GENERAL NOTES
⊕ 40 TO 100 LB DANFORTH ANCHOR POINT ⊛ 20,000 LB ANCHOR BUOY — ESTIMATED 18" HARD BOOM LOCATION	1. ANCHOR LOCATION BASED UPON ALPINE SURVEY 2. EST. BOOM: APPOX. 4,200 FEET 3. 40-100 LB DANFORTH ANCHORS TO BE SET ~ 300 FT

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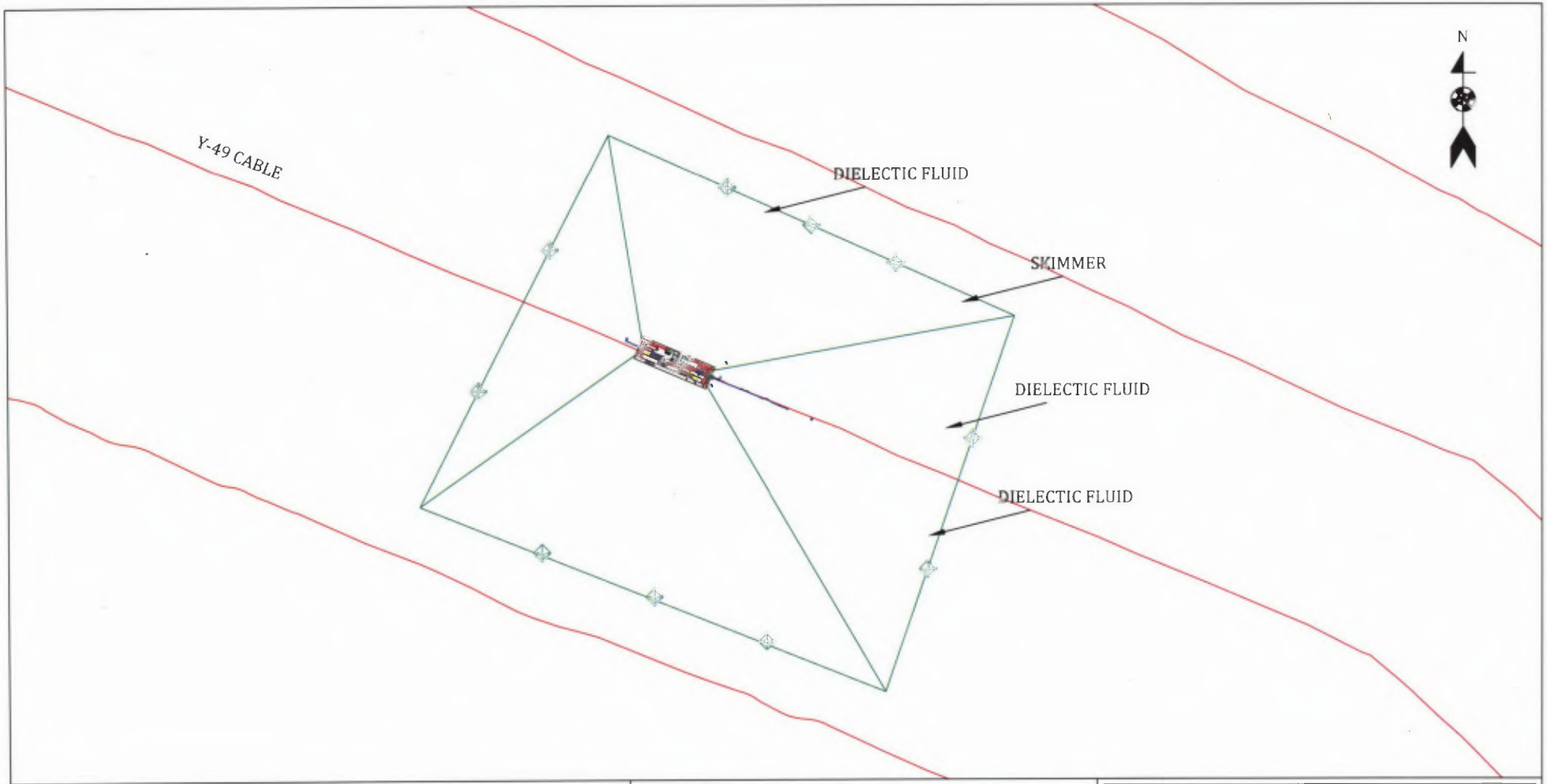
FIGURE 5
BOOM DIAGRAM - NORTH

Y-49 CABLE STRIKE
HEMPSTEAD HARBOR, NY

DRAWN BY: RJF
DATE: 02/25/14
SCALE: NTS

CLIENT:
NEW YORK POWER AUTHORITY
MEG #: M14-0038



LEGEND	GENERAL NOTES
	1. ANCHOR LOCATIONS BASED UPON CALDWELL DRAWING 2. EST. BOOM: APPOX. 4,300 FEET 3. 40-100 LB DANFORTH ANCHORS TO BE SET ~ 300 FT

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FIGURE 6
BOOM DIAGRAM - SOUTH

DRAWN BY: RJF
DATE: 02/26/14
SCALE: NTS

Y-49 CABLE STRIKE
HEMPSTEAD HARBOR, NY

CLIENT:
NEW YORK POWER AUTHORITY
MEG #: M14-0038